



# Improving Fiscal Management in Ghana:

The Role of Fiscal Policy Rules



The Institute of Economic Affairs (IEA), Ghana

# Improving Fiscal Management in Ghana: The Role of Fiscal Policy Rules

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## Abstract

*This paper discusses the role of fiscal policy rules in promoting fiscal discipline and transparency in Ghana. It investigates whether the adoption of fiscal policy rules and independent fiscal policy councils can help improve fiscal performance in Ghana based on international evidence. The econometric analysis draws on a large dataset of about 160 countries to examine the impact of fiscal rules on fiscal performance, measured by the debt to GDP ratio and using the conditional logit regression approach. The results show that fiscal rules, particularly budget balance and debt rules are strongly associated with a higher probability of reducing the public debt to GDP ratio. The paper then calibrates an illustrative simple fiscal rule for Ghana based on the Debt Sustainability Framework with a debt to GDP target of 50 percent of GDP by 2020. Achieving this target requires average fiscal deficit of about 4 percent of GDP. The paper argues that fiscal rules do not operate in isolation and require supporting institutions and reforms to deliver the anticipated outcome. Key reforms to make fiscal rules effective in Ghana include strengthening budget preparation, apportionment and execution; establishing an independent fiscal policy council to provide independent assessment of macroeconomic and revenue forecasts; monitoring and enforcement procedures, and legislative changes to make the fiscal rule legally binding.*

**Keywords:** Fiscal policy rules, fiscal performance, fiscal policy councils, Ghana

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## 1. INTRODUCTION

**This paper discusses the role of fiscal policy rules in promoting fiscal discipline in Ghana.** It investigates whether the adoption of fiscal policy rules and independent fiscal agencies to guide the budget process and strengthen fiscal transparency can help improve fiscal performance in Ghana. Specifically, the paper attempts to address the following issues:

- Can the adoption of fiscal rules help improve fiscal governance in Ghana?
- What types of rules will be more suitable to the Ghanaian context?
- What supporting institutions and reforms are needed to ensure that fiscal policy becomes more credible and more resilient to the control of politicians?

**Perhaps, the single most important factor that could derail Ghana's ability to advance to high middle income status is weak fiscal governance.** Fiscal management in Ghana has not been consistently strong. Poor revenue collection built upon an inadequate tax base and low tax compliance have combined with expenditure pressures particularly in election years leading to large and continuous public sector borrowing. Historically, this unsatisfactory fiscal governance has been at the centre of a vicious cycle in which the public sector's appetite for debt financing has contributed to high interest rates; put pressure on the exchange rate as economic agents are unsure about the sustainability of public debt; raised and distorted the cost of capital; and crowded out private sector investments.

**Fiscal performance in Ghana tends to worsen during election years with concomitant increase in the debt levels.** Primary spending has consistently been higher than revenues with spending particularly higher during election periods. For instance, both the 1992 and 1996 elections resulted in higher fiscal deficits in the 1990s and the same pattern was observed in the period between 2000 and 2012. Government, concerned about securing the support of public service labor unions, granted substantial wage increases in election years and embarked on ambitious capital projects, many of them unproductive. The result has been an inconsistent and poor fiscal performance and high debt levels.

**Breaking the cycle of erratic fiscal management clearly requires a balance between market pressure and fiscal rules in order to keep public finances on a sustainable path.** Empirical evidence shows that the quality of market signals is by itself an insufficient indicator to accurately guide the conduct of fiscal policy especially in periods of crisis (Bergman et al. 2013). This calls for a further quantum improvement in fiscal governance, which embeds a credible improvement in fiscal responsibility and permanently eliminates fiscal deficits, except for well-defined special

circumstances. Fiscal consolidation in Ghana needs to be credible in order to anchor market expectations about fiscal sustainability (Baldacci, Gupta, and Mulas-Granados, 2010).

**Several governments across the world have adopted fiscal policy rules, especially against the backdrop of worsening fiscal performances and rising debt levels.** Estimates by Debrun et al. (2008) indicate that fiscal rules have positive and statistically significant impact on budget balances and the relationship is robust to the possibility of omitted variables and to the definition of the government balance. Reforms of fiscal institutions and the introduction of fiscal rules are motivated by the objective, similar to those in monetary policy, that rule-based policies are likely to deliver better results. The objective of adopting a fiscal rule is to strengthen fiscal solvency and sustainability, contributing to macroeconomic stabilization, and making fiscal policy design and execution more resilient to government corruption and private sector lobbies.

**The results show that fiscal rules, particularly budget balance and debt rules are strongly associated with a higher probability of reducing the public debt to GDP ratio.** The paper then calibrates an illustrative simple fiscal rule for Ghana based on the Debt Sustainability Framework with a debt to GDP target of 50 percent of GDP by 2020. Achieving this target requires average fiscal deficits of about 4 percent of GDP. The paper argues that fiscal rules do not operate in isolation and require supporting institutions and reforms to deliver the anticipated outcome. Key reforms to make fiscal rules effective in Ghana include strengthening budget preparation, apportionment and execution; establishing an independent fiscal policy council to provide independent assessment of macroeconomic and revenue forecasts; monitoring and enforcement procedures, and legislative changes to make the fiscal rule legally binding.

## 2. MACROECONOMIC PERFORMANCE IN GHANA

### 2.1 Recent economic developments

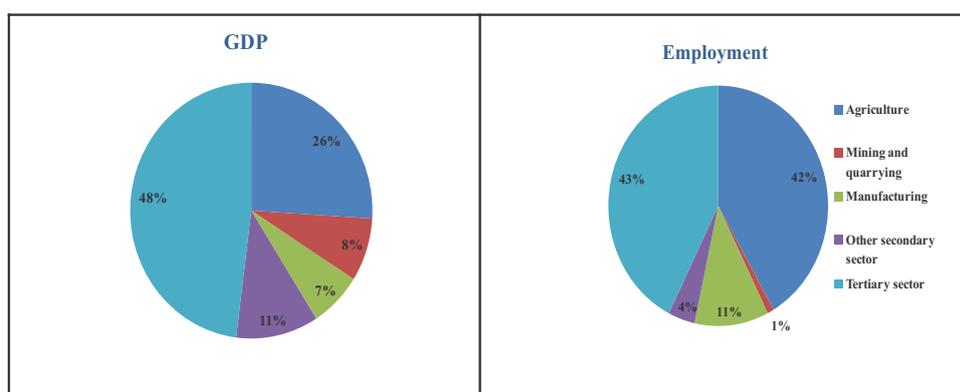
**Until recently, Ghana had made good progress in economic development and had become a darling of the international community and model for most African countries.**

- Ghana has experienced strong per capita GDP growth over the past two decades. GDP consistently outperformed sub-Saharan Africa and the World. Investment in oil exploration has helped put the country into lower middle income status.
- The sustained period of economic growth has led to a significant reduction in poverty while inequality has risen. The number of people living on under \$1.25 a day has declined outperforming regional peers.
- Successes in growth, poverty reduction and improvement in the quality of life have been strengthened by the quality of governance. The country has been rated highly by the World Bank Governance Indicators with a rating close to the average of middle income countries.

**The problem is that growth has not been inclusive and inequality has risen at the same time.**

The share of income going to the richest 10 and 20 percent of the population has been increasing in recent times. In addition, despite the significant improvements in poverty and social indicators, about a quarter of the population still lives below the poverty line with widespread poverty in the rural northern regions.

**Figure 1. Ghana: Sectoral Employment and Output Shares, 2013**



**The structure of the economy has seen a major shift but most employment is still in the agricultural sector.** The services sector is now the largest contributor to GDP accounting for about 48 percent of GDP (Figure 1). However, the economy, and particularly employment, still

relies heavily on agriculture, and about 80 percent of jobs are in the informal sector. At the same time, the concentration of exports in three commodities (gold, cocoa, and oil) continues to make the economy vulnerable to terms-of-trade shocks.

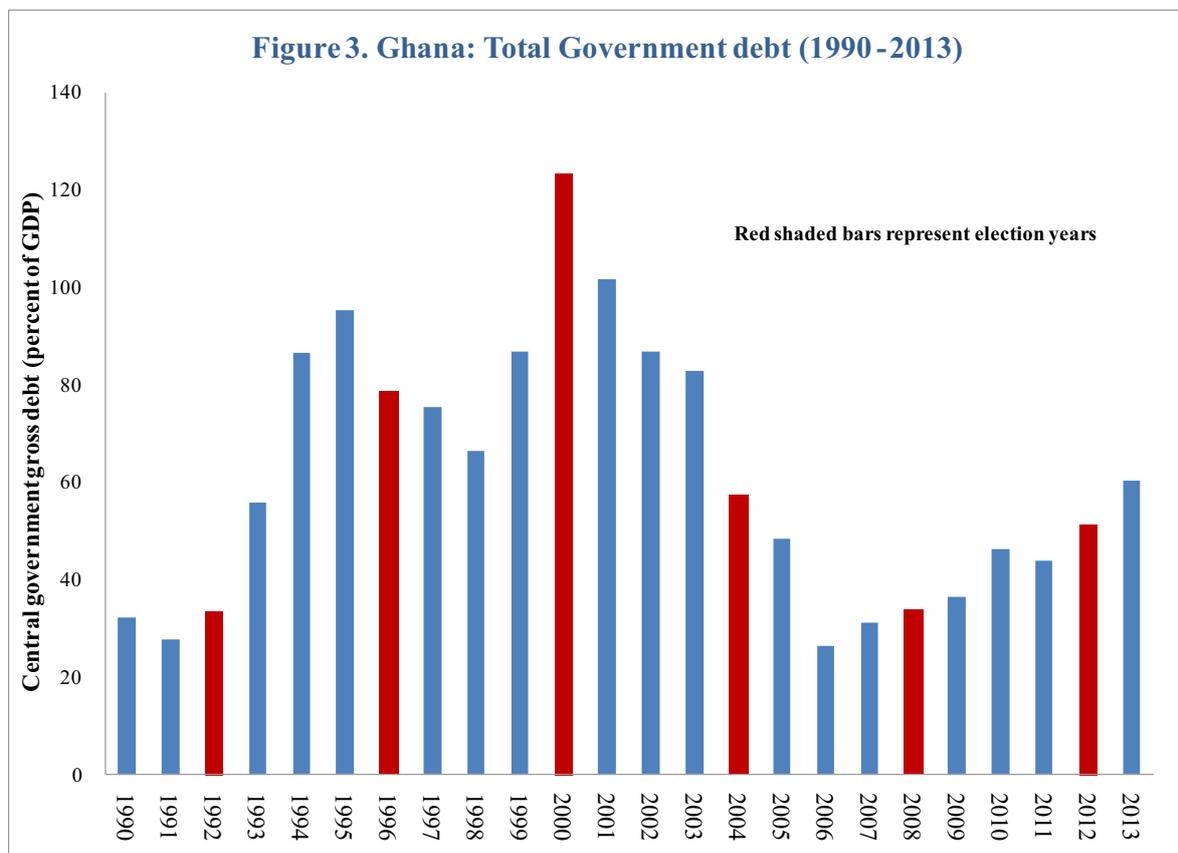
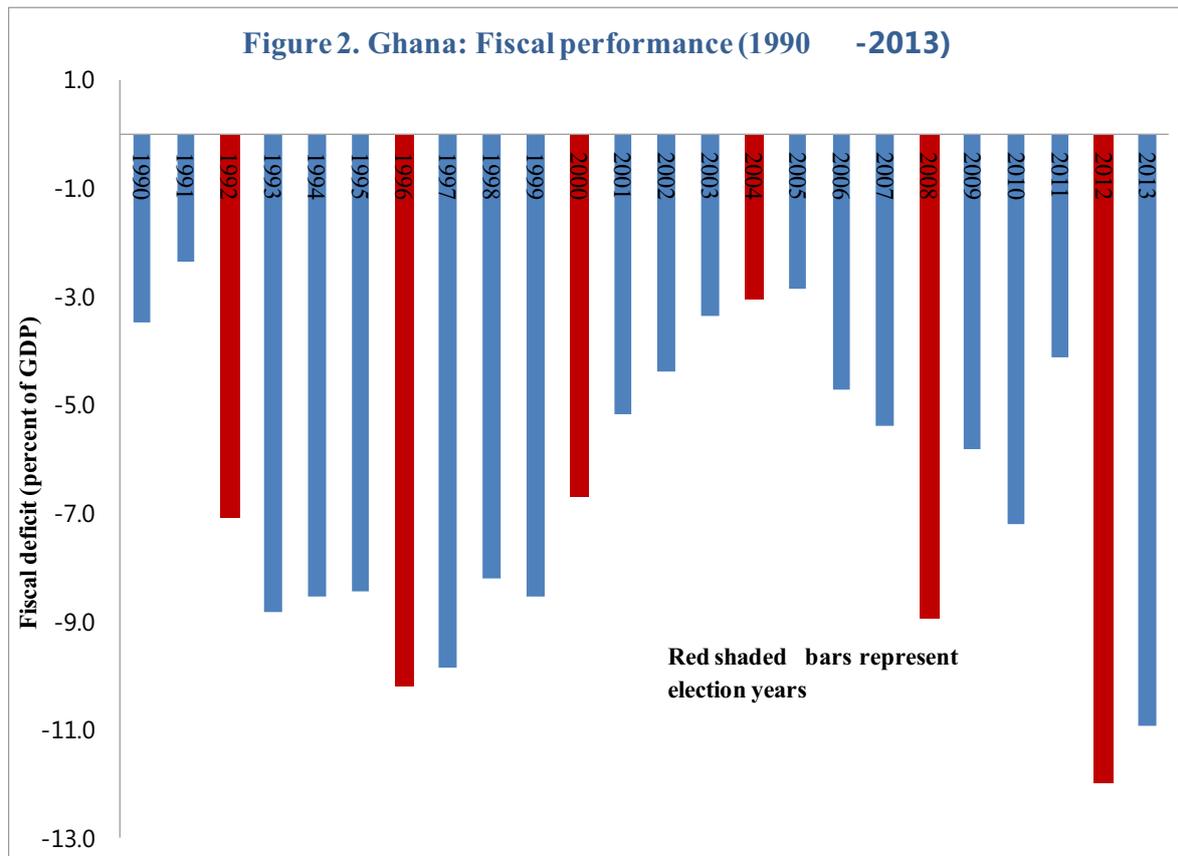
**Economic growth remains strong but fiscal indiscipline continues to undermine the country's strong medium term prospects.** Real GDP growth averages more than 6 percent over the past five years but this has coincided with large fiscal and external imbalances. Aided by rising oil production, real GDP growth in 2013 is estimated at 7½ percent but non oil GDP growth slowed in 2013 mainly reflecting disruptions in power supply.

**After a brief period of registering single digit inflation, inflation currently remains elevated.** High inflation is mainly due to the pass through of the depreciation of the exchange rate into domestic prices. Inflation reached around 14 percent in February 2014, the highest in 3 years. While large increases in utility tariffs, particularly electricity, have contributed to the rise in inflation, estimated core inflation (excluding utilities and food) also remains high.

**The external position is weak partly reflecting lower commodity prices particularly for gold and cocoa.** With weaker gold and cocoa exports, the estimated current account deficit rose above 13 percent of GDP in 2013 (7 percent, excluding FDI), despite higher oil exports. Reserves are below adequate levels, with gross reserves covering less than 3 months of prospective imports. Consequently, the domestic currency has been under pressure and the cedi has depreciated by around 20 percent between January 2013 and January 2014.

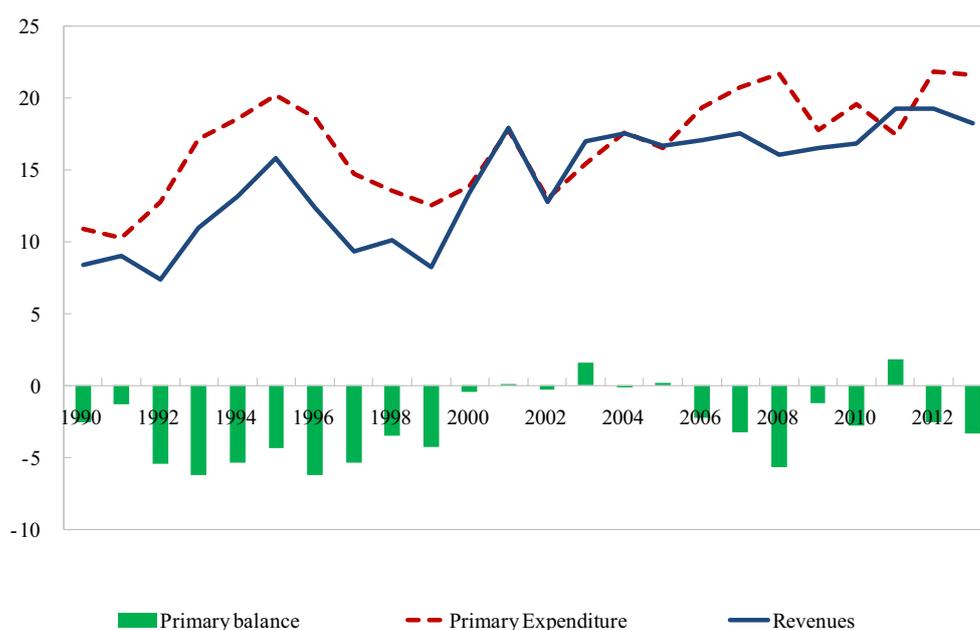
## 2.2 Fiscal Performance in Ghana (1990-2013)

**Ghana has a track record of high fiscal deficits, partly reflecting procyclical fiscal policies in good times and electoral cycles.** This has resulted in elevated levels of public debt to GDP ratio since 1990 until the HIPC debt relief. A review of fiscal performance in Ghana over the past two decades shows that the country has not been able to keep the government budget under control and fiscal consolidation has not been successful. For instance, the average fiscal deficit for Ghana between 2005 and 2013 was 7½ percent of GDP compared with an average of 3 percent for sub-Saharan Africa. Fiscal performance in Ghana tends to worsen during election years with concomitant increase in the debt levels (see Figures 2 and 3).

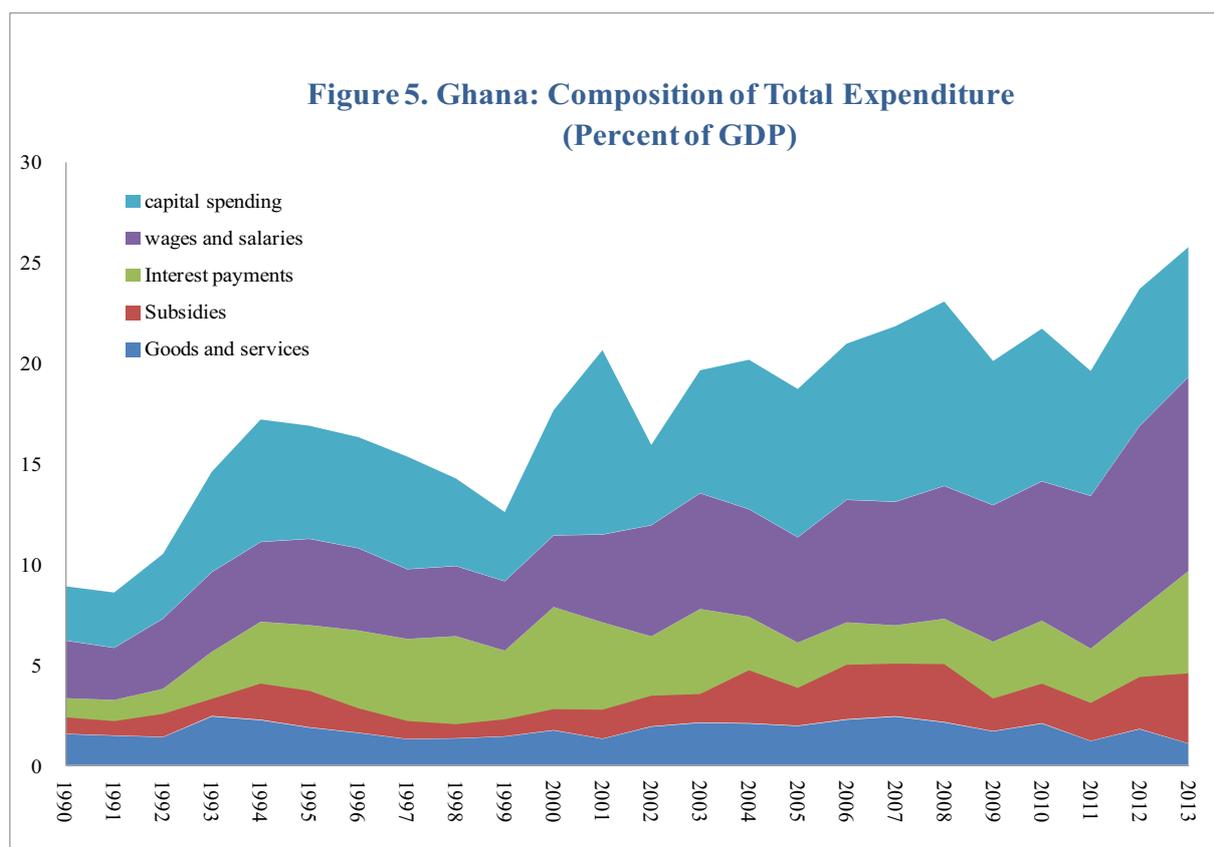


Over the years, revenue performance has improved significantly while at the same time, primary spending has strongly increased (Figure 4). Between 1990 and 2013 total revenue as a share of GDP increased from 9 percent of GDP to around 18 percent of GDP though still below the average for middle income countries. The composition of tax revenues has shifted from a heavy reliance on international trade taxes toward taxes on domestic goods and services. At the same time, primary spending has consistently been higher than revenues with spending particularly higher during election periods. For instance, both the 1992 and 1996 elections resulted in higher fiscal deficits in the 1990s and the same pattern was observed in the period between 2000 and 2012. Government, concerned about securing the support of public service labor unions, granted substantial wage increases in election years and embarked on ambitious capital projects many of them unproductive. The result has been an inconsistent and poor fiscal performance and high debt levels.

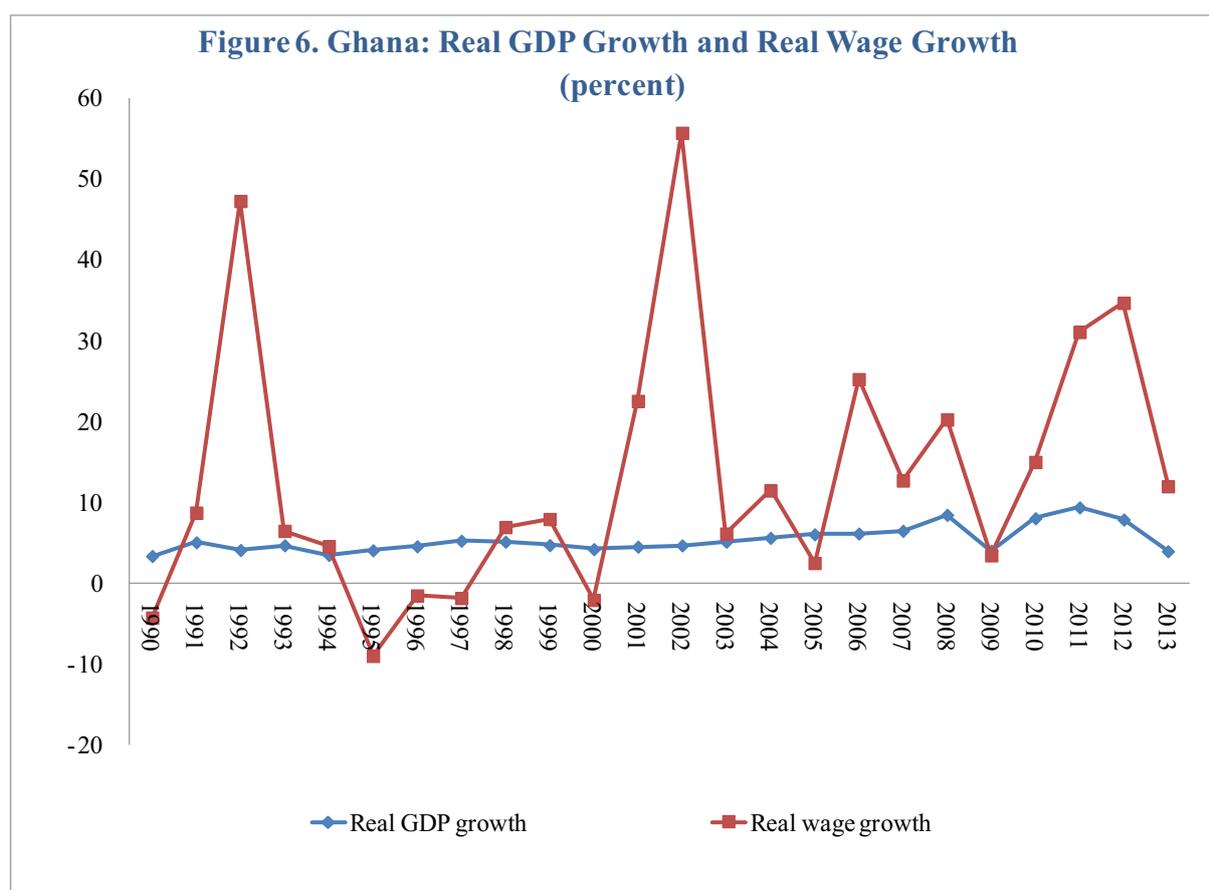
**Figure 4. Ghana: Revenues and Expenditures**  
(Percent of GDP)



Capital spending has historically been the biggest component of government spending, but wages have become more important in recent years (Figure 5). Turning to the composition of total expenditures, we find that on average, capital spending was the biggest component of total expenditure in Ghana until recently when it was overtaken by wages and salaries. Decomposing total expenditures in Ghana into five subcomponents (wages and salaries, interest payments, goods and services, transfers, and capital spending) reveals that public wages and salaries account for an average 9 percent of GDP. Its share of GDP has grown significantly over the past three years.



**Public wage growth has outstripped real GDP growth over the past 10 years (Figure 6).** Analyzing the real growth of expenditures on public wages and salaries together with real GDP growth shows that overall, the growth of real expenditure on public wages has been higher than real GDP growth during the past 10 years. On the positive side, in periods of low GDP growth, wage growth has been particularly low. Additionally, in periods immediately after wage hikes, wage growth decelerated. For example, in 2005 and 2009, public wage growth fell significantly and was below the growth rate of real GDP.



**The fiscal deficit is currently very high and recent fiscal performance has fallen short of the targeted consolidation.** For instance, the fiscal deficit in 2013 is estimated to have reached 10½ percent of GDP mainly due to weaker non oil tax collection. This is against the budget target of 9 percent of GDP. While wage and interest payments were higher than budgeted, total expenditure was lower than budgeted, reflecting significant restraint in other expenditure categories, as well as new domestic payment arrears.

**Public debt is rising even though it is still within the range considered sustainable.** It is important to note, however that the debt trajectory is as important as the debt level in terms of influencing investor confidence and economic growth. A huge debt built up tends to undermine investor confidence and could limit growth even in situations where debt levels are low.

**Addressing Ghana's macroeconomic challenges requires an ambitious fiscal consolidation strategy.** International experience suggests that the initial level of fiscal adjustment is important for the success of fiscal consolidation. The question is, “What is the most appropriate route to follow given that the need to reduce the budget deficit comes in a difficult environment of weak growth and difficult political environment?” Based on a survey of country experiences,

expenditure-based consolidations with a focus on reducing current spending tend to be more successful than tax-based consolidation. However, since the adjustment need in Ghana is large, fiscal consolidation needs to be a balanced combination of spending cuts and revenue increases. Fiscal adjustment needs to be complemented with a rule-based fiscal policy to lock in the gains of fiscal consolidation and enhance policy credibility.

### 3. FISCAL POLICY RULES: THEORY AND COUNTRY EXPERIENCES

#### 3.1 Defining fiscal rule

**Kopits and Symansky (1998) defined a fiscal rule as a permanent constraint on fiscal policy through simple numerical limits on budgetary aggregates.** This definition implies that boundaries, which are difficult to change frequently are set for fiscal policy, and some operational guidance is provided by specifying a numerical target that limits a particular budgetary target.

**Fiscal rules are normally aimed at correcting distorted incentives and containing pressures to overspend, particularly in good times, so as to ensure fiscal responsibility and debt sustainability.** The literature has put forward two reasons to account for the resulting deficit bias—government's shortsightedness and the common pool problem since special interest groups do not internalize the overall budgetary impact of their competing demands (Debrun and Kumar, 2007). In many countries, the existence of many competing interest groups usually results in the “voracity effect” (Tornell and Lane, 1999), where different groups compete and push for overspending especially in good times leaving little or no room for counter cyclical policies in bad times. To solve these problems, a number of fiscal institutions including fiscal rules and medium term budget frameworks have been established around the world over the past three decades with a view to supporting more prudent and balanced fiscal policies.

**Fiscal rules are also introduced to regulate the size of the government and support intergenerational equity.** Containing the size of government is a key function of expenditure rules as well as ceilings on revenues. In addition, budget balance rules can aim to support intergenerational equity by, for instance, requiring the buildup of public assets from the proceeds of exhaustible natural resources. Revenue rules have also been introduced to help protect priority spending by earmarking funds for specific sectors such as health and education in the case of Brazil.

**Fiscal rules can also be classified according to whether they are part of a broader institutional or policy framework.** Rules entrenched within a stronger legal framework, including fiscal responsibility laws are more difficult to reverse. However, it can take longer to establish them, particularly in times of economic and political uncertainty. Other important features include mechanisms for accountability, monitoring, and enforcement that are important in determining rules' effectiveness.

### 3.2 The Theory of Fiscal Rules

**It is generally believed that the source of fiscal indiscipline is the common pool problem.** The presumption is that recipients of public spending do not fully internalize the costs that tax payers must assume. Consequently, governments in democracies are led to postpone tax collections or expenditures cuts, according to the theory of fiscal rules. The solution to the fiscal discipline problem therefore requires internalizing this externality with fiscal rules and adequate institutions.

**Fiscal rules are mainly mechanisms of correcting coordination failures inherent in the budget decision-making process.** The argument is that governments usually consist of multiple decision makers who cater to diverse constituencies and compete for overall fiscal resources available to the general population leading to a common pool problem. As a result, fiscal policy is usually biased towards inefficiently high levels of government spending and this might be mitigated by restricting governments' discretion through the adoption of fiscal rules (Holm-Hadulla, Hauptmeier and Rother, 2010).

**The literature also suggests that these common pool problems may in addition to fiscal excesses induce a pro-cyclical bias in fiscal policy.** Tornell and Lane (1999) developed a dynamic framework in which multiple political groups with diverse preferences compete for a common tax base via the budgetary process. Under favorable macroeconomic circumstances (that is when the tax base increases) the incentive for each group to raise its share of the common pool becomes stronger, whereas in bad times the opposite happens. This theoretical argument provides the basis for empirical findings suggesting a positive relationship between public spending and the cyclical position of the economy (Gali and Perotti, 2003).

**Another justification for the implementation of numerical fiscal rules is to prevent policy makers from worsening macroeconomic volatility through procyclical fiscal policies.** More specifically, there is a widespread consensus on the impact of fiscal rules that restrict government expenditure. According to the European Commission, enforced national expenditure rules help to counteract forces leading to pro-cyclical fiscal policy in good times and thus prevent the need for fiscal austerity measures in difficult times.

**Fiscal policy rules are statistically associated with better fiscal performance.** While this in itself does not prove that rules are responsible for improved fiscal outcomes, the increasing use of rules over the past few years suggests that countries find them useful for instilling fiscal

discipline and for undertaking large adjustments. The most comprehensive analyses have been carried out for the EU countries based on detailed data on national fiscal rules collected by the European Commission and summarized in fiscal rule indexes.

**Marneffe et al (2011) examined the impact of fiscal rules on public finances in the Euro Area.** They found that fiscal rules have in most cases a significant positive effect on the fiscal balance (both on the total fiscal balance and the primary balance). Their results suggests that fiscal rules have had a deficit reducing effect and are in that sense important for the workings of fiscal policy in the euro area. Their results show that stronger fiscal rules in a country and over time contribute to a lower deficit. Fiscal rules tend to have a negative effect on government spending while having no significant effect on government revenues.

**For the EU countries, tighter and more encompassing fiscal rules are associated with stronger cyclically adjusted primary balances.** The relation weakens, however, when measuring fiscal performance in terms of changes in public debt to GDP ratios. This may be an indication that creative accounting could have played a role in conforming to the rules' requirements.

**The empirical literature also shows that the type of fiscal rules and the level of government at which it is applied matters.** Concerning the type of fiscal rules, budget balance and debt rules have contributed to better budgetary outcome. For expenditure rules, an impact is found only in terms of restraining primary spending. The level of government at which the rules apply matters. Rules for higher levels of government have been associated with more fiscal discipline than those applying to local governments. In addition, some design features of fiscal rules seem to have particularly beneficial impact on fiscal performance, including a strong legal basis of rules and strict enforcement.

**Fiscal rules have also been identified as an important factor accounting for the success of fiscal consolidation.** In the Organization for Economic Cooperation and Development (OECD), the size of fiscal consolidation was significantly larger when national or supranational fiscal rules were present (Guichard et al., 2007). For the EU, empirical studies show that stronger and wider fiscal rules as measured by a fiscal rules index were associated with a greater likelihood for successful fiscal consolidation (European Commission, 2006). Econometric evidence on whether national fiscal rules have contributed to triggering fiscal consolidation in EU countries is not clear cut. When estimating the probability of a fiscal retrenchment occurring, the fiscal rules index is found to be only weakly significant (Larch and Turrini, 2008). However, the probability for fiscal rules to trigger a sharp consolidation rather than gradual one is somewhat higher.

### 3.3 Types of Fiscal Rules

**While fiscal rules can serve different objectives, the focus of this paper is mainly on rules that promote fiscal sustainability.** Four types of rules can be identified namely budget balance rules, debt rules, expenditure rules, and revenue rules.

#### Budget balance rules

**Budget balance rules can be specified as overall balance, structural or cyclically adjusted balance, and balance over the cycle can help ensure that the debt-GDP ratio converges to a finite level.** Primary balance rules are less linked to debt sustainability as increases in interest payments would not require an adjustment even if they affect the budget balance and public debt.

#### Debt rules

**Debt rules normally set explicit limits or targets for public debt as a percentage of GDP.** When converging to a debt target is the most important objective, this type of rule is the most effective. Debt rules, however, do not provide enough guidance for fiscal policy especially when the debt is well below the desired target.

#### Expenditure rules

**Expenditure rules usually set permanent limits on total, primary, or current spending in absolute terms, growth rates, or as a percentage of GDP.** These rules are not linked directly to debt sustainability objective since they do not constrain the revenue side of the budget. Expenditure rules, however, can provide an operational tool to trigger the required fiscal consolidation consistent with sustainability when they are accompanied by debt or budget balance rules.

#### Revenue rules

**Revenue rules set ceilings or floors on revenues and are aimed at boosting revenue collection and or preventing an excessive tax burden.** These rules are also not directly linked to control of public debt, as they do not constrain spending. In addition, setting ceilings or floors on revenues can be challenging as revenues could have a large cyclical component, fluctuating widely with the business cycle. Schaechter et al (2012) noted that revenue rules alone could result

in procyclical fiscal policy, as floors do not generally account for the operation of automatic stabilizers on the revenue side in a downturn or ceilings in an upturn for revenue ceilings. However, like expenditure rules, revenue rules can directly target the size of the government.

**Table 1. Ghana: Properties of Different Types of Fiscal Rules**

Type of rule	Advantages	Limitations
<b>Debt rule</b>	Direct link to debt sustainability. Easy to communicate and monitor.	No clear operational guidance in the short run as policy impact on debt is not immediate. No economic stabilization feature. Rule could be met via temporary measures (for instance, below the line transactions).
<b>Budget balance rule</b>	Clear operational guidance.  Close link to debt sustainability. Easy to communicate and monitor.	No economic stabilization feature. Headline balance could be affected by developments outside the control of the Government.
<b>Structural budget balance rule</b>	Relatively clear operational guidance.  Close link to debt sustainability.  Economic stabilization function. Allows for account of other one off and temporary factors.	Correction for cycle is complicated especially for countries undergoing structural changes.  Need to pre define one off and temporary factors to avoid their discretionary use. Complexity makes it more difficult to communicate and monitor.
<b>Expenditure rule</b>	Clear operational guidance.  Allows for economic stabilization. Steers the size of government. Relatively easy to communicate and monitor.	Not directly linked to debt sustainability since non constraint on the revenue side. Could lead to unwanted changes in the distribution of spending if to meet [omission of word(s)] the ceiling, shift to spending categories occurs that are not covered by the rule
<b>Revenue rule</b>	Steers the size of government. Can improve revenue policy and Administration.  Can prevent procyclical spending.	Not directly linked to debt sustainability since it is not a constraint on the expenditure side.  No economic stabilization feature.

Source: Schaechter et al. 2012

### Box 1. The Chilean Experience with Fiscal Rule

Chile's adoption of a fiscal rule came at the end of a long period during which the public debt was reduced from 165 percent of GDP in 1985 to 20 percent in 2000. The objective behind the adoption of the rule was to consolidate the gains made and institutionalize the emerging fiscal discipline tradition. Initially introduced without legal backing, the rule has been written into the fiscal responsibility law.

Chile's fiscal rule requires that the cyclically adjusted primary balance be in surplus. The original target was 1 percent of GDP between 2001 and 2008 and the surplus target was reduced further to 0.5 in 2008 and 0 in 2009 to allow for counter cyclical response to the global financial crisis.

Practically, the rule involves the estimation of the cyclical adjusted government revenues and a derivation of the maximum government expenditure. Chile doesn't have an escape clause but the target can be changed to allow for government response to adverse shocks. While the budget must be in conformity with the fiscal rule, there is no sanction when the budget outturn differs presumably because underlying assumptions proved to be too optimistic.

The calculation of the structural revenues is therefore the main component of the rule. The calculation has to take into account cyclical effects and Chile's revenue is highly sensitive to copper price fluctuations because tax revenues from copper production represent about 25 percent of total revenue. Given the volatility of copper prices, it is important to correct for these fluctuations *ex ante*. The country has set up a committee of independent experts in charge of providing the government with assumptions regarding GDP and the long run price of copper. The implication is that forecast errors concerning GDP cannot be the result of government manipulation. The surplus rule implies that eventually the government must be a net creditor. It was recognized that copper resources are finite and that the country needed to build buffers for a welfare system. As a result, Chile operates two sovereign Wealth Funds.

The main reason for the success of the Chilean rule is the existence of an independent expert group, which is involved in the budgetary process as it produces cyclically adjusted figures. A second reason is the transparency of the process. The calculation of the cyclically adjusted budget, which have been refined over time are presented and explained in great detail to the broad public. Another reason is the relationship between government and parliament. The power to set the budget is entirely in the hands of the executive. Parliament is not allowed to reduce taxes or increase spending.

**Fiscal rules have different implications for the way fiscal policy responds to shocks.** Overall balance or debt rules have the least degree of cyclical flexibility in terms of responding to output shocks. A cyclically adjusted or structural balance rule allows the full operation of automatic stabilizers but does not provide room for discretionary fiscal stimulus. Expenditure rules are consistent with cyclical and discretionary reductions in tax revenues, but they do not normally permit discretionary expenditure stimulus. Revenue rules do not generally account for the operation of automatic stabilizers on the revenue side in a downturn. As automatic stabilizers are stronger on the revenue side, these rules per se tend to result in procyclical fiscal policy.

**Given the advantages and limitations of different types of rules, many countries combine two or more fiscal rules.** Even when its design features are fine-tuned, not all types of fiscal rules are equally able to support the objectives of sustainability, economic stabilization, and the size of government. Many countries, attempt to close these gaps by adopting a combination of rules.

## 4. ESTIMATING THE IMPACT OF FISCAL RULES ON FISCAL PERFORMANCE

### 4.1 The Model

**The conventional approach to estimating the impact of fiscal rule on fiscal performance is to estimate a fiscal policy reaction function.** Unlike previous studies, this paper takes a different approach by modeling the impact of fiscal policy rules on public debt directly. The paper uses a logistic model to estimate the impact of fiscal policy rules on fiscal performance measured by the debt to GDP ratio. We model the impact of fiscal rule on the probability of a large debt reduction rather than changes in the fiscal balance because of the fact that the ultimate impact of fiscal policy is to influence the debt to GDP ratio.

**To examine the impact of fiscal policy rules on fiscal performance, the paper uses a dataset spanning over three decades for a large sample of developed and developing economies using the conditional logit regression approach.**

$$Y_{it} = \alpha_i + \beta X_{it} + \delta G_t + \nu_{it}, \quad (1)$$

Where Y is the log of the odds ratio, or more specifically the log odds of large debt reduction. The variable  $i$  stands for the  $i$ th country and  $t$  for the time period,  $\alpha_i$  is an idiosyncratic fixed effect which accounts for inter-country differences as long as these differences are constant over time. The explanatory variables— $X_{it}$  and  $G_t$ , representing macroeconomic variables, and measures of fiscal rule, respectively—are either measured at the beginning of the previous five year period, or during the previous five year periods. Fiscal rules is a dummy variable, which takes the value 1 for the presence of fiscal rules in country  $i$  and time  $t$ , and 0 otherwise. The result of the panel regression could provide some insights into whether or not fiscal rules can help safeguard fiscal performance in Ghana.

### 4.2 Estimation Method

**The analysis uses a panel data of 160 countries for eight, five year periods (1970-74, 1975-79..., and 2005-2009) to estimate the probability that a large debt reduction would be initiated in each five year period using the logit regression approach.** The logit model is interpreted as follows: the slope coefficient measures the change in Y for a unit change in any of the explanatory variables, demonstrating how the log odds change as the explanatory variables change by a unit.

**The predicted probability of a large debt reduction can be computed using the estimated coefficient of the above regression.**

$$\hat{Y}_{it} = \alpha_i + \beta \hat{X}_{it} + \hat{\delta} \hat{G}_t + v_{it}, \quad (2)$$

The probabilities for hypothetical observations can be calculated by first finding the average values for all explanatory variables for a subset of countries and taking this to represent a typical country within the subset and then using the following formula:

$$\rho_{it} = \frac{e^y}{(1 + e^y)} = \frac{1}{(1 + e^{-y})}, \quad (3)$$

**However, when the dependent variable is observed as a qualitative variable and there are few time series observations per cross section units and no autoregressions, fixed effects models give inconsistent estimates of the slope parameter.** Andersen (1973) and Chamberlain (1980) argued that for large N and small number of observations, the maximum likelihood estimation of the fixed effects model gives inconsistent estimates of the parameters. They recommended the use of the conditional maximum likelihood (conditioning on the fixed effects). The main principle is to consider the likelihood function conditional on sufficient statistics for the incidental parameters  $\alpha_i$  (Maddala, 1987). In our logit model in equation (1), these sufficient statistics are  $\sum_t y_{it}$  for  $\alpha_i$ . Maddala (1987) argued that for the logit model the conditional likelihood approach results in a computationally convenient estimator. The conditional maximum likelihood estimator of  $\beta$  is consistent, provided that the conditional likelihood function satisfies regularity conditions, which impose mild restrictions on the  $\alpha_i$ .

**Chamberlain (1980) demonstrated that the standard errors obtain by the usual conditional logit programs can be used as the asymptotic standard errors for the conditional maximum likelihood estimator of  $\beta$ .** In the conditional fixed effect logit approach, alternative sets for which  $\sum_t y_{it} = 0$  or  $\sum_t y_{it} = T$  are discarded because they do not contribute to the likelihood function. In order to test for individual fixed effect, one can perform a Hausman-type test based on the difference between the conditional maximum likelihood estimator and the standard logit maximum likelihood ignoring country differences.

$$H = (\beta_{CFE} - \beta_{SL})' (V_{CFE} - V_{SL})^{-1} (\beta_{CFE} - \beta_{SL}) \quad (4)$$

The test statistics are asymptotically  $X^2$  distributed with k degrees of freedom.

<sup>2</sup> The odds in favor of a large debt reduction initiation are the ratio of the probability of a large debt reduction to the probability of a no debt reduction in any given five year period. The odds ratio is written mathematically as  $r/(1-r)$ .

### 4.3 The Data

#### Dependent variable

**The dependent variable is the probability of a large debt reduction (*Debtred*).** The variable takes the value of 1 if a large debt reduction occurs and 0 otherwise. If a large debt reduction occurs in period  $t$  and continues in  $t+1$ , the value of *Debtred* is recorded as missing. We define a large debt reduction as occurring when the debt to GDP ratio declines by at least 15 percentage points over a 5 year period.

#### Explanatory variables

**The explanatory variables are measures of fiscal rules, macroeconomic variables, political and institutional variables, and fiscal consolidation.**

*Fiscal rules:* A dummy variable is used to capture fiscal rules. The dummy takes the value of 1 if a fiscal rule exists when the episode starts or during the episode and zero otherwise. The literature suggests that fiscal rules are estimated to have affected several dimensions of fiscal consolidation and that the size of fiscal consolidation was significantly larger when fiscal rules were present. We also investigate whether the type of fiscal rules matters for a large debt reduction. To this end, we examine the impact of expenditure rules, debt rules, revenue rules and budget balance rule in explaining the probability of a large debt reduction.

*Initial conditions:* Initial conditions are measured by the debt to GDP ratio. The probability of a large reduction is likely to increase when initial debt levels are high since high debt levels are likely to make fiscal consolidation needs more pressing.

*Fiscal consolidation:* Fiscal consolidation is measured by the cyclically adjusted primary balance to potential GDP ratio.

*GDP growth:* Real GDP growth is expected to be important in raising government revenues.

*Inflation:* Higher inflation could inflate the debt away but also has significant negative effective or economic growth and welfare. Lucas (2003) estimates that the gains from completely removing inflation rate of 200 percent are in excess of 5 percent of GDP in the long run.

*Global economic conditions:* We use global real GDP growth as a measure of global economic

conditions. Many analysts believe that the global economic conditions could influence the success of fiscal consolidation and debt reduction efforts.

*Interest cost*: is measured as interest payments to GDP ratio. This measure is used to determine whether interest cost has a disciplinary effect on debt. High debt servicing cost could negatively affect growth and investment.

#### 4.4 Estimation Results

##### Comparative Statistics

**First, it is important to examine some comparative statistics.** Table 2 presents comparative statistics for *large debt reduction countries* and *no large debt reduction countries* during the sample period. The data shows the following:

- Countries that had a large debt reduction were more likely to have fiscal rules (in whichever form) than countries that did not experience a large debt reduction.
- Countries that experienced a large debt reduction during the period had a much higher debt than those that did not experience large debt reduction.
- Countries that experienced a large debt reduction on the average had a much higher growth than countries that did not experience a large debt reduction.
- Countries that experienced a large debt reduction had much better primary balances than countries that did not experience a large debt reduction.
- Surprisingly countries that were able to significantly reduce their debt levels had a much lower inflation than countries that did not experience a large debt reduction.
- Finally, countries that experienced large debt reduction had a much higher interest cost than countries that did not experience a large debt reduction.

**Table 2. Comparative Statistics: Determinants of Global Large Debt Reduction**

	Large debt re duction		No large debt reduction	
	Mean	Standard deviation	Mean	Standard deviation
Debt reduction	1	0	0	0
Debt	68.5	34.1	60.9	60.69
GDP growth	4.9	4.11	3.72	3.6
Primary balance	1.62	5.3	-0.004	6
Interest cost	3.8	3.1	2.77	2.2
Inflation	6.9	9.4	10.94	14.69
Political risk	65	12.5	66.5	13.6
Fiscal rules	0.26	0.44	0.15	0.36
Expenditure rule	0.11	0.32	0.05	0.21
Balance budget rule	0.25	0.43	0.13	0.33
Debt rule	0.19	0.4	0.11	0.31
Revenue rule	0.04	0.2	0.016	0.13

Source: Authors' calculations.

**It is not surprising that the main finding from these comparative statistics is that countries that experienced a large debt reduction** were more likely to have fiscal rules and were on average able to achieve a higher GDP growth and larger primary surpluses than countries that did not experience a large debt reduction.

### Regression Results

**Table 3 provides the logit estimates for 9 different models.** Model 1 is the standard logit regression for the data that are pooled over time and model 2 is the conditional fixed effects logit model without fiscal rules. When looking at the regression results, it is important to note that the fixed effect estimator does not use information provided by inter-country comparison of debt reduction. Consequently, the probability of a large debt reduction is identified by countries that change debt reduction status during the period. In fact, in the conditional fixed effect model, all countries with unchanged outcome drop out of the conditional likelihood function. In our sample, we observe 217 countries that changed their debt reduction status at least ones during the period 1970-2009. It is evident therefore that the number of informative observations is substantially lower than the total sample size since the superior properties of the fixed effects estimators in terms of bias need to be traded for less precise estimates in terms of higher standard errors. A comparison between the standard logit model and the conditional fixed effect logit shows that the fixed effect model performs better. A Hausman test statistic of 23.50 with a p value of 0.0014 leads to a rejection of the model without fixed effects.

**The main result from the econometric analysis is that global large debt reduction is positively associated with the existence of fiscal rules,** strong economic growth, favorable external environment, lasting fiscal consolidation, and weak initial conditions. Fiscal rules tend to increase the probability of a large debt reduction because they help strengthen the fiscal framework and improve fiscal transparency. Which types of fiscal rules are more successful in debt reduction? We found that debt rule and balanced budget rules are important in explaining the probability of a large debt reduction. Revenue- and expenditure-based fiscal rules do not appear to have any significant impact on the probability of a large debt reduction.

**Global large debt reductions are also associated with weak initial conditions.** The probability of a large debt reduction tends to increase when initial debt levels are high since high debt levels tend to make fiscal consolidation needs more pressing in our sample of countries.

**A strong economic growth increases the probability of a large debt reduction as the implementation of sound polices helps countries grow themselves out of debt.** The results also show that global large debt reductions are driven by decisive and lasting fiscal consolidation. As expected, inflation does not contribute to major debt reductions and is actually negative and significant in the conditional fixed effects logit specification. Debt servicing costs also play a disciplinary role as high debt servicing costs are positively associated with the probability of a large debt reduction.

**Table 3. Regression Results: Fiscal Rules and Global Large Debt Reduction**  
(Dependent variable: the probability of a large debt reduction)

	(1)	(2)	(3)	(4)	(5)	(6)	(8)	(9)
	GLS	Random effects	Fixed effects	Fixed effects	Fixed effects	Fixed effects	Fixed effects	Fixed effects
Interest payments	0.1810 (0.1671)	0.1672*** (0.0561)	0.1810 (0.1671)	0.4803** (0.2328)	0.2284 (0.1793)	0.5500** (0.2546)	0.6233** (0.2673)	0.2510 (0.1845)
Inflation	-0.0692** (0.0333)	-0.0226 (0.0202)	-0.0692** (0.0333)	-0.0436 (0.0361)	-0.0659* (0.0342)	-0.0442 (0.0350)	-0.0326 (0.0364)	-0.0661* (0.0338)
Global growth	0.9006* (0.4996)	0.6304 (0.4187)	0.9006* (0.4996)	1.2181** (0.6039)	0.9749* (0.5149)	1.3896** (0.6303)	1.4011** (0.6428)	1.0819** (0.5326)
Primary balance	0.1418** (0.0624)	0.0561** (0.0260)	0.1418** (0.0624)	0.1535** (0.0623)	0.1411** (0.0620)	0.1600** (0.0689)	0.1476** (0.0667)	0.1394** (0.0626)
Debt-to-GDP ratio	0.0572*** (0.0171)	-0.0000 (0.0029)	0.0572*** (0.0171)	0.0483*** (0.0179)	0.0558*** (0.0175)	0.0519*** (0.0178)	0.0455*** (0.0173)	0.0560*** (0.0174)
GDP growth	0.1131** (0.0481)	0.0477 (0.0297)	0.1131** (0.0481)	0.1271** (0.0494)	0.1144** (0.0483)	0.1396*** (0.0519)	0.1382*** (0.0521)	0.1166** (0.0483)
Fiscal rules				3.0087*** (1.0787)				
Expenditure rule					1.0147 (0.8789)			
Debt rule						5.3949** (2.0981)		
Balanced budget rule							5.4797*** (1.9784)	
Revenue rule								1.7689 (1.3734)
N	217	469	217	217	217	217	217	217
Log likelihood	-52.6156	-153.5913	-52.6156	-45.9339	-51.8868	-44.0946	-42.6553	-51.6386

Source: Authors' calculations.

Notes: Standard errors in parentheses. Asterisks \*\*\*, \*\*, \* denote significant at 1, 5, and 10 percent level, respectively.

## Robustness Tests

**How robust are these results?** The robustness of our results is tested by the following measures. First, we use a variety of estimation techniques. Second, we restrict the sample period to the period 1990-2009. Third, we exclude oil exporters from the full sample, and fourth we use an alternative definition of a large debt reduction episode. Some of the results of our robustness analysis are presented in the Table 4.

**Table 4. Robustness Tests: Fiscal Rules and Global Large Debt Reduction**

(Dependent variable: the probability of a large debt reduction)

	Alternative definition of debt reduction			Excluding oil exporters		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Interest payments	0.50430 (0.22121)**	0.53438 (0.22830)**	0.56349 (0.23435)**	0.29272 -0.25080	0.31031 (0.25730)**	0.29679 (0.25682)
Inflation	-0.03796 (0.03483)	-0.03832 (0.03327)	-0.03991 (0.03260)	-0.08113 (0.04930)*	-0.07962 (0.04945)*	-0.08292 (0.04892)
World growth	1.58845 (0.59345)***	1.67717 (0.60020)***	1.57595 (0.62130)***	2.15448 (0.84615)***	2.18990 (0.83808)***	2.23625 (0.85083)***
Primary balance	0.14228 (0.05988)**	0.13833 (0.06170)**	0.15033 (0.06471)**	0.34035 (0.13085)***	0.34080 (0.13139)***	0.33940 (0.13295)**
Initial debt	0.04598 (0.01743)***	0.04555 (0.01746)***	0.04832 (0.01749)***	0.09870 (0.02995)***	0.09911 (0.02994)***	0.10102 (0.02986)***
GDP growth	0.12465 (0.04861)***	0.12506 (0.04870)***	0.13226 (0.04938)***	0.33741 (0.15349)**	0.33195 (0.15219)**	0.34562 (0.15358)**
Fiscal rules	2.24256 (0.78523)***			2.33547 (0.9494492)**		
Budget balance rule		2.64213 (0.97406)***			2.52412 (1.06235)**	
Debt rule			3.53640 (0.12566)***			2.48407 (1.06354)**
Log likelihood	-51.23484	-51.1829	-51.23484	-33.83596	-33.90281	-34.11112
No. of observations	231	231	231	189	189	189

Source: Authors' calculations.

Note: Standard errors in parentheses. Asterisks \*\*\*, \*\*, \* show significant at 1, 5, and 10 percent levels of significance, respectively.

**We examined whether our benchmark regression results are robust to changes in the definition of large debt reduction.** We define a large debt reduction as occurring when the debt to GDP ratio declines by at least 10 percentage points over a 5 year period. Using this definition, we were able to identify 12 more episodes of global large debt reduction. We then estimated our benchmark model using the new definition of large debt reduction as the dependent variable. The results show that the estimated coefficients are largely unchanged even though the standard errors, as expected, are larger in the model that uses fewer observations. The existence of fiscal rules, higher primary surpluses, strong global growth, and robust real GDP growth are all positively and significant factors explaining the probability of global large debt reduction. We also excluded oil exporters from our baseline regression and the results are statistically similar to our baseline regression results.

## 5. AN ILLUSTRATIVE FISCAL RULE FOR GHANA

**This section presents an illustrative fiscal rule for Ghana based on the debt sustainability framework.** Based on the current needs of the Ghanaian economy, the paper simulates and proposes a simple fiscal rule for the country. The section also discusses some of the reforms needed to enhance the success of the fiscal rule.

### 5.1 The Debt Sustainability Framework

**The Debt Sustainability Framework (DSF) determines a floor on the path of overall balances that could achieve the debt ceiling by a given target date.** In this way, the DSF approach provides a direct link between the long-term public debt target and the annual overall balance target. As shown in the fundamental debt equation below, the overall balance target depends on the target date to achieve the debt ceiling and average economic growth, conditional on the initial level of debt:

$$d_t = \frac{1}{1+n_t} d_{t-1} - ob_t \quad (1)$$

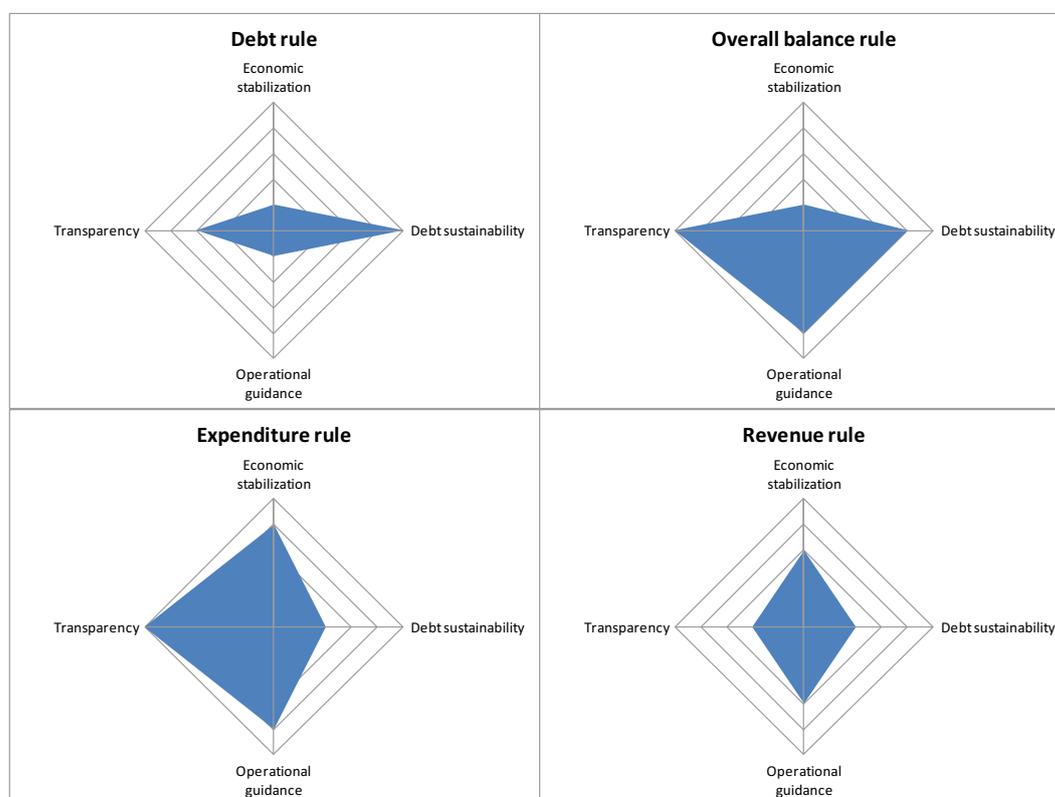
where  $d_t$  is the debt at the end of period  $t$  as a ratio of GDP in period  $t$ ,  $ob_t$  is the overall balance in period  $t$  as a ratio of GDP in period  $t$ , and  $n_t$  is the nominal GDP growth between periods  $t-1$  and  $t$ . This relation determines the overall balance target ( $ob^*$ ) needed to achieve the debt ceiling ( $d^*$ ) in a certain number of years ( $N$ ):

$$ob^* = \frac{-n}{(1+n)((1+n)^N - 1)} ((1+n)^N d^* - d_o) \quad (2)$$

where  $n$  is the nominal GDP growth rate in the long-run and  $d_o$  is the initial level of debt-to-GDP ratio (Escolano, 2010). An alternative DSF approach would be to set targets on the primary surplus. However, this approach would be more complex to monitor, and requires forecasts of additional macroeconomic variables (e.g., the average real effective interest rate on public debt). The framework outlined above only requires an assumption on average nominal GDP growth, which can be updated mechanically with a moving historical average.

<sup>3</sup> It is important to note that the Ghana Petroleum Revenue Management Law is a form of fiscal rule covering only one aspect of the budget—oil revenues. To be binding, a fiscal rule is expected to cover the overall budget framework as well as key revenue and/or expenditure items.

Figure 7. Ghana: Desired Properties of Fiscal Rules



Source: IMF, 2009 and author's assessment

**The DSF approach does not capture a number of factors that could influence the debt level.** The debt dynamics equation abstracts from “below-the-line” operations that can affect debt but not the overall balance, such as the sale or acquisition of financial assets, provision of state guarantees and exchange rate valuation effects. Consequently, the overall balance is based on a different coverage than the public debt. Periodic adjustments (for example, every 5 years) in the overall balance floor could be required to account for these factors and ensure that the fiscal framework remains consistent with achieving the debt ceiling by the target date.

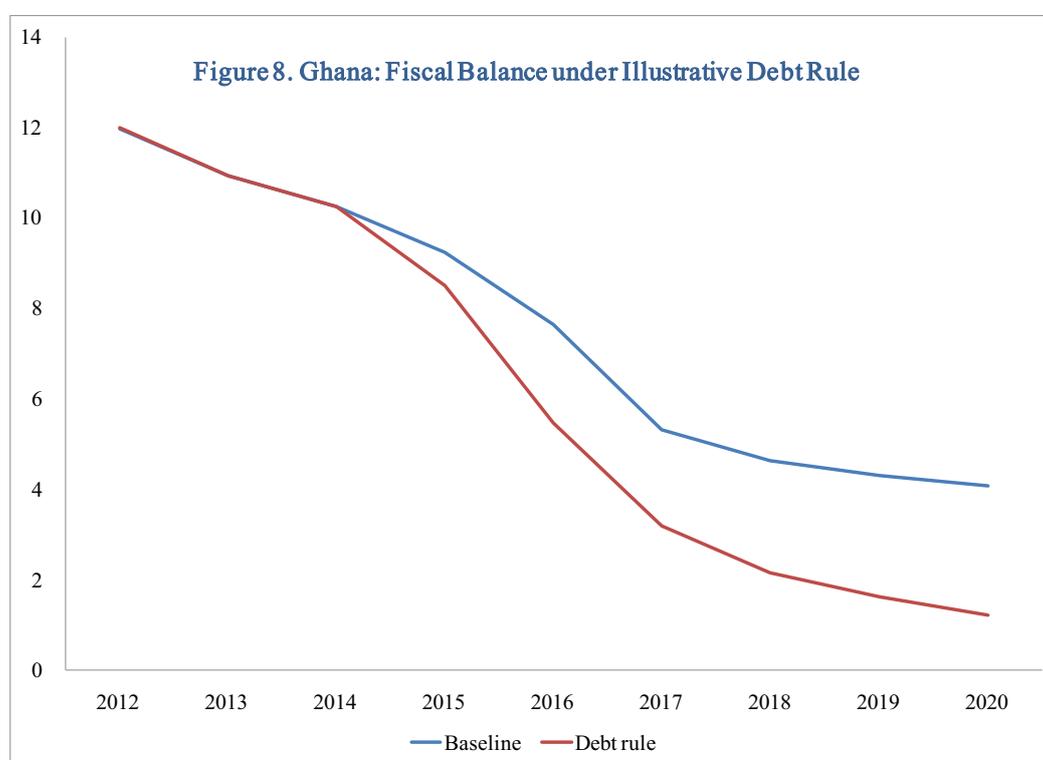
**The choice of any debt ceiling needs to be consistent with fiscal sustainability and provide adequate fiscal buffers to accommodate future shocks.** A credible target should be realistic while also sufficiently ambitious to restore sustainability and credibility with budget stakeholders. A debt ceiling in the range of 50 percent of GDP could represent an appropriate balance. This debt target would be consistent with the view of the government of a sustainable debt level and also below the threshold of 60 percent of GDP associated with an elevated chance of debt distress in emerging markets.<sup>4</sup>

**Table 5. Ghana: Illustrative Fiscal Rule and Baseline Compared (Percent of GDP)**

	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Baseline</b>									
Fiscal balance	-12.0	-10.9	-10.2	-9.2	-7.6	-5.3	-4.6	-4.3	-4.1
Adjustment	...	1.0	0.7	1.0	1.6	2.3	0.7	0.3	0.2
Central government gross debt	51	60	67	69	70	66	63	61	60
Central government net debt	49	58	64	67	68	63	59	57	55
<b>Debt rule</b>									
Fiscal balance	-12.0	-10.9	-10.2	-8.5	-5.4	-3.2	-2.1	-1.6	-1.2
Adjustment	0.0	1.1	0.7	1.8	3.0	2.3	1.0	0.5	0.4
Central government gross debt	51	60	67	68	67	61	56	53	50
Central government net debt	49	58	64	66	65	58	52	49	44

Source: Author’s estimates

The paper calibrates an illustrative fiscal rule with the objective of achieving a debt target of 50 percent of GDP by 2020. The main difference between the baseline and the fiscal rule illustration is the extent of front loading in the required adjustment, which has implications for the medium-term fiscal balance.

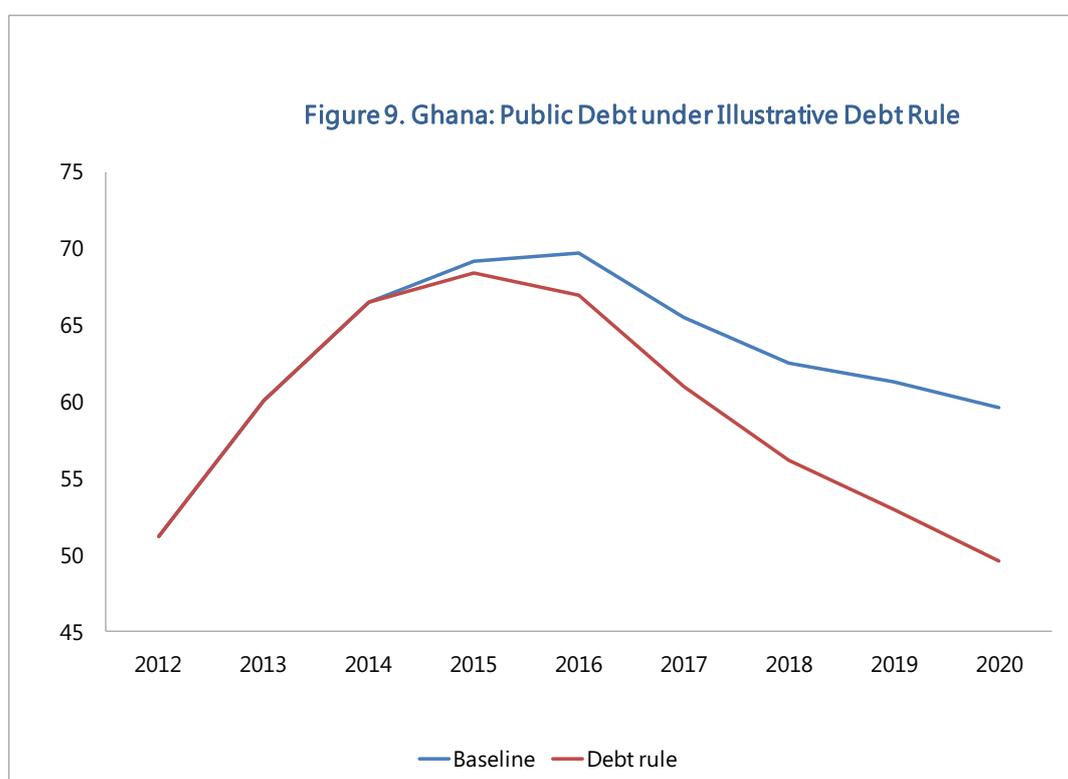


Source: Author’s estimates

<sup>4</sup> Refer to the IMF’s guidance note for debt sustainability analysis in middle income countries at <http://www.imf.org/external/pubs/ft/dsa/mac.htm>. A number of countries have maintained higher debt ratios for many years (e.g., Italy and Japan) while others have defaulted at lower debt ratios (e.g., Argentina). Consequently, the specific debt ceiling also reflects country-specific aspects.

**The baseline scenario assumes unchanged policies while the debt rule scenario assumes a frontloading of fiscal adjustment.** Under the baseline, the overall balance targets for 2014-2020 are set in line with the government objective of a gradual fiscal consolidation. This framework does not achieve the target and only reduces the debt to GDP ratio by about 7 percentage points by 2020 (Figures 8 and 9).

**The goal of the debt rule scenario is to frontload the fiscal adjustment to allow for a higher overall balance beginning in 2015.** Under this scenario, the debt target would be achieved in 2020 requiring an average fiscal balance of 4 percent of GDP. The debt rule scenario achieves the desired debt target while enhancing fiscal credibility because of the more rapid debt consolidation compared to the baseline. However, it requires greater fiscal adjustment in the near term than currently envisaged in the baseline scenario, which may be challenging



Source: Author's estimates

## 5.2 Additional supporting rules and procedures

**The rules-based framework outlined above could be supported by targets on the wage bill and the stock of guarantees.** The debt ceiling and overall balance floor are most directly related to fiscal sustainability. Constraining the wage bill could play a supporting role as an important

tool to resist short-term expenditure pressures. In addition, it is also essential to establish targets on government debt guarantees. To have a complete picture of the debt situation, guarantees should be included in the definition of total debt. Consequently, the annual overall balance target to achieve the debt ceiling would also reflect the stock of guarantees.

**Periodic reviews of the numerical targets and economic assumptions could play a useful function to ensure that the framework remains realistic over time.** The DSF approach that anchors the proposed fiscal rule hinges on a realistic assumption of the nominal GDP growth rate. The required annual budget balance target could be updated in periodic reviews by refreshing the average nominal GDP growth rate based on a 10-year moving average of historical outcomes. This mechanistic update would strengthen the credibility of the process. The review could also be used to evaluate the appropriateness of the ceiling on the wage bill and stock of government guarantees, and take account of below-the-line operations that may have affected the debt ratio.

#### **Automatic correction mechanism**

**Mechanisms are needed to encourage compliance with the annual fiscal targets.** An automatic correction mechanism broadly modeled on the Swiss and German “debt brake” rules requires that ex post deviations from the overall balance target are debited in a notional account. Once the cumulative deviations exceed a pre-specified threshold, additional fiscal adjustment would be required in subsequent fiscal years to correct for these deviations and bring fiscal performance back in line with the fiscal rule. This mechanism provides a strong incentive to formulate realistic budgets since deviations from the budget target would require an offsetting fiscal adjustment in subsequent years.

**A number of considerations should be taken into account in the design of an automatic correction mechanism in Ghana.** The threshold for the cumulative deviation in overall balance targets triggering an adjustment needs to be clearly specified. A higher threshold provides flexibility to respond to short-run macroeconomic fluctuations and would limit the need for within year supplementary budgets. A lower threshold, however, provides a stronger link to debt sustainability.

#### **Coverage of the fiscal rule**

**Appropriate coverage of the fiscal rule is needed to ensure transparency and capture activities associated with government.** In Ghana, the key coverage issue is the definition of the

government sector that should be covered under the rule. The rules-based fiscal framework should apply to entities that primarily fulfill the functions of government. Consistent with the *GFSM 2001* convention, “the general government sector consists of all government units and all nonmarket nonprofit institutions that are controlled and mainly financed by government units”. In Ghana, the government sector can be defined along these lines to include the central government budget, and public enterprises and corporations that principally execute government functions. Most state-owned enterprises would be classified as part of government under *GFSM 2001* but a number of the self-financed state-owned enterprises could be classified as commercial and thus excluded. Key statistical criteria for classifying these entities include market-based prices and output. In Europe, where the classification is crucial for assessing compliance with the debt and deficit rules, public bodies that cover less than 50 percent of their costs from market-based sales are usually classified as part of government.

**The coverage of the government sector under the fiscal rule could potentially be expanded to include commercial entities to capture fiscal risks.** Despite the absence of an explicit legal obligation, the government has bailed out public entities that were commercially operated but deemed too strategically important to fail. A broadly defined government sector including commercial entities could enhance fiscal transparency by capturing implicit contingent liabilities. In this way, broader coverage could also help to mitigate an incentive to shift fiscal activities “off-budget”. The main drawback is that the required fiscal consolidation may constrain the scope to undertake profitable investments in commercial entities.

**Table 6. Ghana: Examples of Fiscal Rules with Escape Clauses**

Country and Date	Natural disaster	Economic recession	Banking system bailout, guarantee schemes	Change in government	Change in budget coverage	Other events outside government control	Voting mechanism defined	Transition path defined
Brazil (2000)	X	X	-	-	-	-	X	-
Colombia (2011)	-	X	-	-	-	X	-	-
Germany (2010)	X	X	-	-	-	X	X	X
Mauritius (2008)	X	X	-	-	-	X	-	-
Mexico (2006)	-	X	-	-	-	-	-	-
Panama (2008)	X	X	-	-	-	X	-	X
Peru (2000)	X	X	-	-	-	X	-	X
Romania (2010)	-	X	-	X	X	X	-	X
Slovak Republic (2012)	X	X	X	-	-	X	-	-
Spain (2002)	X	X	-	-	-	X	X	X
Switzerland (2003)	X	X	-	-	-	X	X	X
EU member states (2005)	-	X	-	-	-	-	-	X
WAEMU (2000)	-	X	-	-	-	-	-	-

Sources: Schaechter and others (2012); National rules, and author's assessment.  
X= Escape cause present.

## Escape Clause

**The rule-based fiscal policy framework should allow deviations from the fiscal targets in exceptional situations.** Current triggers of the escape clause include factors in the interest of national security; to reduce or eliminate the effects of a period of public disaster or a period of public emergency; or such other grounds as the Minister of Finance may specify with the consent of the Parliament. A decision to activate the escape clause is required to include a new time schedule and measures to meet the targets. These broad activation criteria may weaken the credibility of the framework since the rules can be easily suspended. Best practices suggest that criteria for triggering the escape clause should be restricted to extraordinary factors (Table 6).

**Country-specific characteristics pertinent to Ghana should be taken into account in designing the escape clause.** Given the frequency of floods and drought, the fiscal and macroeconomic impact should be incorporated in budget planning. Extraordinary storms that would trigger the use of the escape clause should occur infrequently. The triggers can be quantified by the measured threshold level of economic damage. Activating an escape clause should require broad political and public support, and independent validation. To enhance credibility, a sufficiently large parliamentary majority should be required to trigger the escape clause. The provision should specify the path back to the rule and the regime in the interim. For instance, the fiscal rules could be suspended for a maximum of 2 years after the escape clause is triggered. As part of the regular 5-year review process the impact of the escape clause on debt can be corrected in the updated calculation of the annual fiscal balance target. The escape clause could also allow for a maximum 3-year extension of the target date to meet the debt ceiling.

## 6. REFORMS TO STRENGTHEN THE IMPLEMENTATION OF THE FISCAL RULES

**This section outlines reforms to strengthen operational implementation of the fiscal rules.** International experiences suggest that fiscal rules do not function in isolation and require supporting institutions and reforms to deliver the anticipated outcome. Key reform areas include the establishment of an independent fiscal policy council; strengthening budget preparation, apportionment and execution; enhancing revenue forecasts; improving monitoring and enforcement procedures; and legislative changes to make the fiscal rule legally binding.

### 6.1 Independent Fiscal Council

An independent fiscal policy council would enhance the quality of budget discussions and foster greater transparency. Fiscal policy councils can exercise important supporting functions for fiscal policy. In Ghana, an independent fiscal council could have a key role in assessing the reliability of the macroeconomic and revenue assumptions underpinning the budget, and estimating the fiscal impact of proposed measures.

#### Box 2. Fiscal Policy Councils

Fiscal councils (FCs) are publicly-funded, non-partisan institutions mandated by governments to evaluate fiscal policy, monitor fiscal performance, and/or advise policymakers on policy options. As fiscal challenges have increased in recent times, fiscal councils have become increasingly popular, often in line with the implementation of rules-based fiscal frameworks. Globally, about 20 fiscal councils are now in place, mostly in advanced economies. Fiscal councils are very diverse in their features and responsibilities, but a number of salient stylized facts emerge from international experience.

- In contrast to audit institutions, fiscal councils analyze public finances ex-ante. They generally provide detailed analyses of budget plans and their expected outcomes, together with an unbiased assessment of the quality of the underlying assumptions and of the main sources of fiscal risks. Many fiscal councils can raise awareness of policy biases and budget constraints by assessing long-term fiscal trends.
- Thus fiscal councils' influence on fiscal policy operates mainly through a better informed

<sup>5</sup> Fiscal policy councils are similar to monetary policy committees in the literature on monetary policy. The rationale is to isolate the fiscal policy making process from the preferences of politicians and thereby make fiscal policy more independent and credible. (See Box 2).

public debate, fostering transparency and accountability. They publish regular reports in time to contribute to the debate, and in many cases, they benefit from formal communication channels with parliaments.

- To alleviate partisanship and foster reputation, fiscal council members commonly include academics as well as recognized public-finance experts. In some countries, one of the members is expected to be a non-national.
- Many fiscal councils have been set up in countries where fiscal rules are in place and have been tasked with monitoring compliance with the rules. Fiscal councils act as a watchdog and alert the public of deviations from the rules, particularly when the underlying calculations—e.g. cyclical adjustment—are complex. Some fiscal councils can issue normative assessments of fiscal performance under a rule, for instance signaling when unusual circumstances make it sensible to depart from the rule, or advising the government on how to improve the rules.
- A few fiscal councils have a remit that allows them to directly influence the budget process through technical inputs, such as macroeconomic and budgetary forecasts the government must use, and the costing of policy initiatives. Some also assess the appropriateness of given policies and recommend a particular fiscal stance.

Government interference with the activities of a fiscal council, as observed in a few cases (Sweden, Hungary), can seriously undermine its effectiveness, and a recent tendency has been to establish strong formal guarantees on their independence, not unlike those prevailing for central banks. These may include long and non-renewable terms of office for fiscal council members, unrelated to the political cycle, and outright prohibitions to the government to interfere with the fiscal council work. In addition, independent fiscal councils should have their own technical staff, be properly funded (preferably through secured multiyear financing) and have the autonomy to determine their own work program within their clearly-defined mandate. They should have full and timely access to all relevant information, including the methodology and assumptions underlying the budget and other fiscal proposals.

In some countries, fiscal councils also play a “watchdog” role by monitoring compliance with fiscal rules. In addition, forecasts produced by fiscal councils can serve as a neutral baseline to assess the fiscal cost and macroeconomic impact of policy proposals. The mandate of fiscal councils in a few countries even allows for direct influence over the budget by specifying

technical inputs, such as the macroeconomic and budgetary forecasts.

## 6.2 Budget Preparation, Apportionment and Execution

**A strengthened top-down budgeting approach complemented by policy-oriented bottom-up program design is essential to make the fiscal rules credible.** A fiscal balance target requires a budget based on top-down resource limits derived from realistic revenue forecasts. A consistent accurate budget calendar is also essential. Any lateness of the budget process could decrease the quality of budget bids and result in approval of appropriation only after the start of the financial year, reducing the effectiveness of implementing measures or improvements.

**Strengthening the apportionment plan is critical to assess in-year execution relative to budget targets.** The apportionment process is the bridge between budget estimates and month-by-month releases of spending authority. An inability to monitor agreed monthly targets undermines the credibility of the budget as a tool to achieve the targeted fiscal balances under the fiscal rule. In addition, a binding apportionment plan provides MDAs with a view of monthly available resources over the financial year to facilitate their execution plans. In this way, MDAs can avoid making commitments without assurances of sufficient resources, potentially resulting in arrears.

**Strengthened controls on expenditure execution at each stage of the purchase and payment process are needed to ensure that payment arrears and “excess expenditures” do not occur.** Expenditure controls remain incomplete given the ease of applying virements and scope for spending outside of the financing plan. Arrears, although acknowledged to be substantial, are not definitively monitored throughout the budget year. In addition to breaching budget control, arrears also have effects on supplier liquidity and result in higher prices for future government purchases whether or not there are late payment penalties. It is also essential to regain control of the public sector wage bill. The payroll is relatively large and is the single largest expenditure. The degree of financial control on payroll expenses is unclear. The experience of other countries shows that eliminating “ghost workers” and multiple dippers (i.e., persons who are paid for more than full-time work, perhaps by being on several payrolls) from the payroll has resulted in significant savings.

<sup>6</sup> Arrears are generally defined with reference to the standard terms of trade, defined as 30 days after receipt of the goods and service and a correctly rendered invoice. Note not all arrears are captured by outstanding bills past 30 days due, since ministries can sometimes withhold the issue of checks to suppliers.

### 6.3 Enhancing Revenue Forecasts

**Strengthening the precision of revenue forecasts is important in establishing a credible fiscal rule.** Projections of available resources in the next fiscal year are needed earlier in the budget preparation process to determine realistic expenditure ceilings. Anchoring the expenditure ceilings on early and unreliable forecasts could increase revenue shortfalls from the onset of a new fiscal year, requiring a supplementary budget shortly after the initial budget is passed. Large and volatile revenue deviations from the budget target may have resulted from forecast errors, policy decisions and shortfalls in expected gains in revenue administration. The revenue forecast process begins with a baseline projection based on expected macroeconomic variables. As the country contends with end-of-year seasonality in tax receipts, there may be scope to refine the current forecasting models to make greater use of in-year indicators of economic performance. Ensuring appropriate coordination between the Ministry of Finance and Ghana Revenue Authority may also provide more realistic inputs in the forecasting model (e.g., corporate profit forecasts). Conservative forecasts of improvements in revenue administration would also be prudent to avoid shortfalls.

### 6.4 Enforcement and Legal Compliance

**Strengthening the current sanctions regime would enhance the credibility of the fiscal rule.** An automatic correction mechanism can be used as a control for ex post deviations from the fiscal rules. Strengthening enforcement procedures, such as sanctions for breaches of budgetary procedures and expenditure controls, will also be needed to encourage ex ante compliance with the rules. Strengthening the sanctions regime will need to be addressed in legislation. In addition to increased transparency and accountability measures through parliamentary hearings and public statements by responsible officials, MDA officials (including ministers and permanent secretaries, and CEOs of public bodies) could suffer personal consequences for failed fiscal management. The government could explore legal avenues, for example, to specify serious or repeated budget breaches as a ground for disqualification prior or subsequent to appointment.

**While an enhanced compliance regime should build on the existing legal framework, legislative reforms will be needed to support these measures.** In particular, key aspects of the fiscal rule—the debt ceiling and target date, the need for a budget balance rule to meet the debt ceiling, elements of the escape clause and the procedure that triggers it, and legal and fiscal consequences of deviations from the budget balance rule—should be laid down in a legal

instrument that cannot be amended by a simple majority of Parliament.

## 7. SUMMARY AND CONCLUSION

**This paper has examined whether the adoption of fiscal policy rules can help improve fiscal performance in Ghana based on international evidence.** The analysis shows that Ghana has a track record of high fiscal deficits, partly reflecting procyclical fiscal policies in good times and electoral cycles. This has resulted in elevated levels of public debt to GDP ratio since 1990 until the HIPC debt relief. A review of fiscal performance in Ghana over the past two decades shows that performance has been abysmal. The country has not been able to keep the government budget under control and fiscal consolidation has not been successful. Fiscal performance in Ghana tends to worsen during election years with concomitant increase in the debt levels.

**The need for combining long run fiscal discipline and short term flexibility is an inherently difficult exercise.** Fiscal rules are being used by major advanced countries as well as some emerging markets to reduce the fiscal deficits and government expenditure to sustainable levels and increase government revenues. The empirical analysis shows that fiscal rules are essential for improving fiscal performance. The analysis draws on a large dataset of about 160 countries to examine the impact of fiscal rules on fiscal performance, measured by the debt to GDP ratio and using the conditional logit regression approach. The results show that fiscal rules, particularly budget balance and debt rules are strongly associated with a higher probability of reducing the public debt to GDP ratio.

**A cursory look at the Ghanaian fiscal framework suggests existing fiscal rules are insufficient to improve fiscal discipline.** There is therefore the need to implement a fiscal rule that has broad coverage of the budget more generally and further reduce discretionary policy interpretations. The paper then calibrated an illustrative simple fiscal rule for Ghana. The calibrated fiscal rule for Ghana is a debt rule based on the debt sustainability approach with a debt to GDP target of 50 percent of GDP by 2020. The government's gradual approach to consolidation is not expected to improve public debt dynamics and achieve the 2020 debt target. The 2014 budget, with a deficit target of 8½ percent of GDP, is focused on protecting infrastructure spending to preserve economic growth. However, this strategy prolongs a situation of high real interest rates and leaves no cushion for revenue shortfalls or spending overruns. The calibrated fiscal rule for Ghana based on a long term debt target of 50 of GDP helps to enhance fiscal credibility and improve debt dynamics. However, it requires a strong initial fiscal consolidation with average fiscal deficits of about 4 percent of GDP needed to achieve the debt target.

**Fiscal rules tend to be most effective when they incorporate the entire public sector and are enacted by law or incorporated in the Constitution.** Effective fiscal rules are also expected to include well-defined sanctions if the rules are broken and clearly defined correction mechanisms. In addition, fiscal rules must operate within a fiscal framework that provides institutional capability for effective monitoring, providing data that justify and continually evaluate the rule targets, where credibility is increased when these rules are monitored by competent independent bodies and are flexibly adjusted to cyclical or unforeseen economic shocks.

**The paper argues that fiscal rules do not operate in isolation and require supporting institutions and reforms to deliver the anticipated outcome.** Key reforms to make fiscal rules effective in Ghana include strengthening budget preparation, apportionment and execution; establishing an independent fiscal policy council to provide independent assessment of macroeconomic and revenue forecasts; monitoring and enforcement procedures, and legislative changes to make the fiscal rule legally binding.

**Competent and dedicated policy makers are able to help exercise good judgement and help deliver an adequate mix of restraint and flexibility.** To achieve these objective, policy makers needs to be shielded from the temptation and pressures that are part of political life. This is the approach that has been adopted by monetary policy by an increasing number of countries, so far successfully. Independent fiscal policy councils can play the same role as monetary policy committees, deciding on deficits and the evolution of public debt (Wyplosz, 2005). To be effective, fiscal policy councils need to be given a clear mandate, debt sustainability, so that they are freed from the time inconsistency problem that leads to a deficit bias.

**In addition to fiscal rules, strengthening fiscal performance in Ghana will require gaining control over the wage bill.** Efforts should be devoted to ensuring a clean payroll system in the country. In addition, the wage setting process needs to be reviewed with a possible shift towards multi-year agreements that would be negotiated before the budget is finalized. Collaboration with labor unions would be critical in this regard.

**The incorporation of these recommendations into Ghana's present fiscal framework will help in the achievement of fiscal target and aid in the correction of fiscal loopholes that have proven so costly to the performance of the broader economy.**

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